

REMARKS

In the Office Action, claims 1-25 were rejected. By the present Response, claims 1-25 remain pending in the present patent application. Reconsideration and allowance of all pending claims are requested.

Drawing Rejection

Applicants traverse the present drawing objection. Applicants submit that a block diagram, such as that shown in Fig 1 of the present application, is intended to broadly depict constituents of a system and the manner they are connected inside the system in a broad manner so as to conceptually convey to the reader the structure and functionality of the system. That is, a block diagram is merely an abstract and/or a conceptual representation of a system and its components. Furthermore, a block diagram is not intended to realistically depict actual components of a system as they would actually appear, much less their geometrical features and orientations with respect to other components.

Applicants submit that block 12 of Fig. 1 labeled "X-SOURCE" provides an abstraction for a plurality of X-ray sources as those could very well be contained in the depicted block. As clearly stated in the specification, "the X-ray source 12 may include multiple X-ray producing components." *See*, Application, page 4, lines 3, 4. Thus, the specification defines block 12 as potentially encompassing a plurality of X-ray sources. Accordingly, Applicants contend that the drawings show each and every feature of the invention and that no correction is required.

Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 1, 2, 5-9 and 17-25 under 35 U.S.C. § 102(b) as being anticipated by the Jensen et al. reference (U.S. Patent Application Publication No.

2002/0085681, hereinafter referred to as “Jensen”). The Applicants respectfully traverse these rejections.

Anticipation under 35 U.S.C. § 102 requires a showing that each limitation of a claim is found in a single reference, practice or device. *In re Donohue*, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985). With regard to the rejected claims, Jensen fails to disclose each limitation of the rejected claims and, therefore, does not establish a *prima facie* case of anticipation.

Applicants submit that the rejection of independent claims 1, 17, 18, and 22 is improper because the prior art reference that is used to reject the claims does not disclose each and every element recited by the claims. For example, independent claim 1 recites a method comprising “acquiring a plurality of projection images from different locations on an *arbitrary* imaging trajectory.” (Emphasis added). Independent claim 17 recites a system comprising “means for acquiring a plurality of projection images from different locations on an *arbitrary* imaging trajectory.” Similarly, independent claims 18 and 22 recite a detector configured to detect X-rays emitted by an X-ray source at different locations on the “*arbitrary* imaging trajectory.” (Emphasis added).

The term “arbitrary” as it pertains to an imaging trajectory is clearly defined in the specification in the following manner:

[i]n implementations such as this where the X-ray source 12 (or sources) move, the source path may be arbitrary. One characteristic of such an arbitrary source path, as discussed herein, is that an arbitrary source path may trace virtually any geometric shape (such as linear, arcuate, ovoid, elliptical, hyperbolic, sinusoidal, and so forth) or no specific geometric shape (such as a composite or random path). In addition, an arbitrary source path may have virtually any orientation with respect to the patient, and is not limited, such as by hardware constraints, to a specified path. In particular, an arbitrary

source path is not confined to move within a specified plane or at a fixed distance from some fulcrum point. In other words, an arbitrary source path allows for movement of an X-ray emitter or tube in an unfixed manner relative to the patient 18 and/or the detector 22. An arbitrary source path, therefore, may be adjusted or adapted based on circumstance, such as in response to patient specific factors.

Application, page 12, lines 6-17.

In contrast, Jensen discloses a C-arm rotatably mounted to a base that moves the C-arm along an orbital rotation path to cause an X-ray source and a receptor device to follow an arc about an orbital axis aligned perpendicular to a plane defined by the C-arm. *See*, Jensen, [0011]. The C-arm disclosed by Jensen limits a source path to have only certain orientations with respect to the patient, and confines it to move within a specified plane or at a fixed distance from some fulcrum point. While Jensen does disclose orbital, longitudinal, lateral, transverse, pivotal and wig-wag paths none of these paths are arbitrary in nature, but instead, appear to constitute a listing of fixed, predetermined paths from which an operator may choose. *See*, Jensen, paragraph [0029]. Thus, Jensen does not disclose “an arbitrary imaging trajectory,” nor do any teachings disclosed therein meet criteria set forth by the Applicants’ specification which could make those teachings suggest “an arbitrary imaging trajectory.”

Furthermore, the term “arbitrary” may be interpreted as meaning “based on or determined by individual preference or convenience rather than by necessity or the intrinsic nature of something.” *See* Merriam-Webster’s Collegiate Dictionary, p. 63 (11th. ed. 2003). In other words, the imaging trajectory, as recited in claim 1, and as similarly recited in claims 17, 18, and 22, may be interpreted as being fully adjustable and configurable based on the preference or convenience of the operator. However, in Jensen even when the C-arm is rotated through various orbital orientations the X-ray emitter 123 is fixed relative to a patient and/or the detector 124. Therefore, aspects of the system

disclosed by Jensen may not be adjusted or adapted based on circumstance, such as in response to patient specific factors. In contrast, the arcuate configuration of the C-arm would permit a limited amount of adaptability to accommodate certain patient imaging trajectories.

Absent some showing of such an *arbitrary* imaging trajectory in the Jensen, no *prima facie* case of anticipation can stand. Therefore, the Applicants respectfully request reconsideration and allowance of claims 1, 17, 18 and 22 and those claims depending therefrom.

Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 3, 4 and 10-16 under 35 U.S.C. § 103(a) as being unpatentable. Claims 3 and 4 were rejected in view of Jensen and in view of the Hsieh et al. reference (U.S. Patent No. 6,574,304, hereinafter referred to as "Hsieh").

The Examiner rejected claims 3 and 4 under 35 U.S.C. § 103(a) as obvious in view of Jensen and Hsieh. Applicants respectfully traverse these rejections. Applicants respectfully submit that claims 3 and 4 are allowable based at least on their dependencies on independent claim 1 because Hsieh does not cure the deficiencies described above in regard to Jensen. For at least these reasons, Applicants respectfully assert that the Examiner has clearly not established a *prima facie* case of obviousness with regard to claims 3 and 4. Accordingly, Applicants request the Examiner to reconsider and allow claims 3 and 4.

In rejecting independent claim 10, the Examiner asserted that it would have been obvious to one having ordinary skill in the art to modify the technique disclosed by Jensen to include a step of providing a tangible machine readable media

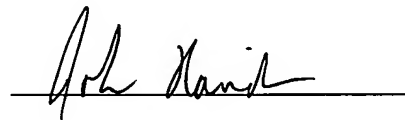
comprising code to cause an apparatus to acquire a plurality of projection images. *See*, Office Action, page 5, 6. However, Applicants contend that even if such a modification is effected, Jensen would still fail to disclose a tangible machine readable medium comprising "code adapted for acquisition of a plurality of projection images from different locations on an *arbitrary* imaging trajectory," as recited by claim 10. As stated above with reference to claim 1, Applicants contend that Jensen does not teach an arbitrary imaging trajectory. Thus, Applicants submit that the rejection of independent claim 10 is improper and should be withdrawn. Applicants request the Examiner to reconsider and allow independent claim 10 as well as those claims depending therefrom.

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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